ones for massing fires to repel an infantry assault. The decision must be based upon the commander's METT-T analysis and his acceptance of risk.

The key to being able to employ all the Dragon sights effectively is training. Far more men are going to have to be qualified as Dragon gunners with both day and night sights. In addition, company commanders, platoon leaders, and squad leaders must be aware of some problems with using MILES (multiple integrated laser engagement system) for Dragon training. MILES is a good engagement simulator, but it reinforces some bad habits with regard to the actual employment of the Dragon missile system:

- It gives troops the false impression that it is all right to lug a missile around with the tracker permanently attached. Both trackers should be left in their carriers until the last possible moment.
- It does not force junior leaders to plan on where in the scheme of maneuver they are going to mate the tracker to the round. In the assault position? At phase line so and so? There is no one right answer, but the question needs to be part

of the thought process.

- It gives no practice in the vital task of mating a round to the tracker. This should be a practice drill with soldiers showing quickness and an absolute economy of motion.
- It is reloadable, but a Dragon missile is not. If a squad's basic load is three rounds, then it needs to train to carry three rounds, not one Dragon MILES and three ATWESS (antitank weapon effects simulation system) cartridges.

In addition to all of these considerations, manning the extra Dragons can be a problem. The fact that most infantry platoons average 25 men does not help matters. If a platoon has three Dragon systems and uses all six sights, that will occupy a quarter of the platoon. For a mechanized infantry platoon, the percentage is even worse. The best solution is to evaluate both the mounted and dismounted threats, to build sets of positions to deal with both, and to rehearse moving from one to the other based upon the commander's analysis of the threat.

Finally, there is the problem of the soldier's load, especially in light units.

Who will carry the four rounds per Dragon system (two for the day sight and two for the night sight)? A commander will sometimes be faced with the decision of what other equipment to leave behind. The decision to go Dragon-heavy will always be based on METT-T, with the emphasis on mission, enemy threat, and the terrain to be traversed.

As a rule of thumb, the suggestion to use both sights and carry extra rounds is more practical in the defense than in the offense. In the defense, it is possible to pre-stock ammunition so the soldiers don't need to be overloaded.

In summary, the Dragon system is probably going to be with us for some time to come, and we as leaders must always be looking for new ways to use what we have. We owe it to our soldiers and the Army.

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TOWs in the Offense Techniques of a Motorized Force

CAPTAIN CRAIG J. CURREY

In traditional heavy task forces in an offensive situation, their TOW 2 weapons normally take on an overwatch role to support the attacking armor or infantry forces. But in a motorized "middle-weight" force such as the 9th Infantry Division, TOWs are used aggressively in offensive operations. Recent exercises, including Devil Strike, the first motorized rotation at the National Training Center (NTC), have demonstrated that an

expanded role for the TOW in the offense is possible if certain techniques are carefully applied.

The 9th Division's combined arms battalions consist of a mix of TOW companies (each with 20 TOW 2 systems mounted on M966 HMMWVs) and light motorized infantry companies, each with many MK19 grenade launchers and Dragons, as well as with the entire range of infantry support arms. Each battalion

also includes a combat support company with scouts, heavy mortars, and an additional antitank platoon of TOWs. This force structure enables a battalion to take several agile and lethal approaches to its conduct of offensive operations.

In a movement to contact against a moving enemy, for instance, it may employ a single axis formation, which allows the scouts and other attached forces to act as security elements, with

a light motorized infantry element supported by a platoon of TOWs following as an advanced guard. In a two-axis movement, the security force is beefed up to operate on both axes, and an advanced guard element is provided for each axis.

In either case, the HMMWV TOW companies follow and use their speed and mobility to by-pass or flank an enemy contact on any axis and use their standoff range ability to set up hasty engagement areas (EAs) to destroy follow-on enemy

Thus, the flexible, aggressive use of TOWs in the offense allows the security elements to locate enemy formations using the full capacity of the weapon well forward to provide long-range killing power to an infantry-heavy advanced guard. For example, in a meeting engagement, the TOW companies can actually destroy the bulk of an enemy force without becoming decisively engaged.

In this kind of action, the TOW companies move to positions that best allow them to engage the enemy. They will quickly occupy a "gun line" (platoons on line in hasty positions that take advantage of whatever cover and concealment is offered by the terrain). While pre-planned engagement areas allow for easier command and control, the TOW units must remain flexible enough to allow the commander on the ground to adjust to the terrain and the enemy's movements to maintain the necessary standoff ranges and allow for flank and, if possible, rear shots.

In occupying a hasty engagement area, the TOW commander relies heavily on his subordinate leaders to position their TOWs to get the best fields of fire. Command and control are therefore critical. and fire control becomes difficult.

Dispersion and all-around security are also critical factors that must be considered. A TOW platoon will disperse according to an analysis of METT-T (mission, enemy, troops, terrain, and time). As a security measure, a platoon leader should position his platoon in a lazy W formation, because a linear one is more susceptible to enemy air attack. By occasionally repositioning his sections, a platoon leader can make his gun line more difficult for the enemy to identify and

therefore to engage.

As a company commander orchestrates his gun line with the help of his platoon leaders, individual gunnery and crew skills (the cornerstones of a motorized force's effectiveness) come into play. Defensive EAs can be prepared in detail since an area can be secured, occupied, thoroughly briefed on the ground, and rehearsed, but offensive EAs must flow from SOPs and good planning. In either case, a gunner should have a pre-planned trigger line. If he does not, his squad leader must identify one for him on the basis of the TOW's effective range or what the terrain will allow. A squad leader also assigns sectors of fire.

The company commander develops pre-planned target reference points (TRPs) or designates potential TRPs upon arrival at a hasty EA. Platoon leaders add any necessary platoon TRPs and make sure each squad leader knows all the TRPs and understands the fire



distribution plan for those TRPs. If, for example, an old hulk or building is in the EA, one platoon might be assigned to shoot to the left of it while another would shoot to the right of it. A TRP will also include when to fire, priority of targets, method of engagement (including individual or volley fire), and the sectors or sequencing of enemy vehicles to ensure their greatest possible destruction,

In ideal situations and terrain, the M966s cannot afford to become decisively engaged at ranges of less than 2,000 meters in the offense, because they have little ballistic protection. At lesser ranges, without a dug-in position and with its slow rate of fire and long tracking time, the M966 will usually lose. Disengagement criteria therefore become critical. If the FM radio links break, the subor-

dinate leaders should be able to determine when they should withdraw.

In addition to conducting a movement to contact, a motorized force may also have to conduct a deliberate attack against a defending enemy. Preferably, the TOW companies overwatch on this operation as motorized infantry breaches or clears the dug-in enemy infantry soldiers. Unfortunately, a TOW company may have to go beyond its overwatch role to deal with a changing enemy situation or to help accomplish the battalion's mission. As in a heavy task force, infantry is at a premium in a motorized force, and the TOW companies may have to assume secondary missions, including conducting a hasty breach of a lightly defended enemy position.

If the TOW company can penetrate to the enemy's rear, it can then use a hasty engagement area to add confusion and destroy a reinforcing enemy force, Ideally, the infantry makes a breach in the enemy's line to enable a TOW company to slip through. Furthermore, if the TOW company can find an assailable flank or a lightly defended avenue of approach, it can breach the enemy's position with the aid of attached engineers or infantrymen.

Total darkness is the preferred time for any TOW company to slip through or to breach. (The M60 machinegun on the M966 can be used to secure an obstacle as the engineers breach it.) When the TOW company itself must breach an obstacle, it is difficult to establish a breach team; if crew members have to be used, the vehicles are left with only a driver.

At the NTC, a TOW company was able to penetrate a tank berm during darkness and, with the aid of attached engineers, a subsequent minefield that was being overwatched by dismounted OPFOR infantry. This breach allowed both TOW companies to slip behind the OPFOR and engage reinforcing OPFOR tanks. The smallest TOW element possible should be used to help the engineers or to conduct the breach and hold it open while the rest of the TOW company pushes through with the following units.

Although the TOW is best used in wellprepared engagement areas, motorized forces have developed limited ways of using it in the offense. Mounted on an M966, the system is fast and can maneuver to destroy the enemy. It is even capable of moving behind an attacking infantry force in a deliberate attack and slipping by or fighting through a weakly defended enemy position.

Since the TOW is the main killing

system in a motorized force, it must be ready to conduct such offensive operations if the force is to accomplish its mission. With a well-trained force, the necessary techniques of fire control, dispersion, and gunnery can help a TOW company survive and win.

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If you are a company commander, one of your most important tasks is templating fires accurately, both the enemy's and your own. A quick template of enemy positions showing the arc of the weapons' ranges will show the enemy fire sacks and will help you make sure you can cover your engagement area with your weapon systems. You can make a weapons template that will help you do this.

Draw the template (Figure 1) with an alcohol pen on acetate and then sandwich the acetate between two pieces of combat acetate. Draw the friendly line and weapons in blue, the enemy in red. Mark miles and kilometers in black. Put a small hole through the base mark and each of the weapon

Put a pin in the base hole and put it over the weapon position on the map. Put a marker in the appropriate weapon system hole and mark the arc. When this process is completed, you should be able to identify and avoid fire sacks.

An example of how the template can be used is shown in Figure 2. This example considers a Soviet BMP platoon in a defensive position.

